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(54) SPIRAL FLOW TYPE  
AIR CLASSIFICATION  
MACHINE

(57) Abstract:

PURPOSE: To classify a raw material of a powder and granular body at a required classification point by setting the fixing pitch of blades to satisfy a specified equation in relating to the separating particle diameter in a classification machine wherein a plurality of spiral flow adjusting blades are provided on a rotor and a guide vane is provided on the outer

periphery through a classification room.

**CONSTITUTION:** A rotor 5 on the outer peripheral part of which a plurality of spiral flow adjusting blades 6 are fixed is stored under a condition of free rotation in the center of a cylindrical casing 1 wherein a conical hopper 2 on the bottom part of which an exit 3 for coarse powder is opened is provided on the lower part. Then, air for classification is fed in a classification room 7 from an air feeding path 11 through a guide vane 8 to form a free spiral flow and a raw material is fed from a raw material inlet 13 under a condition where a forcible spiral flow is formed by rotating the spiral flow adjusting blade 6 through a rotating shaft 4 and fine powder with at most a specified particle diameter is separated and is recovered through a product discharging exit 12. At this instance, an excellent accuracy of classification is obtained by setting the fixing pitch  $P$  of the spiral flow adjusting blade 6 to a value satisfying the equation  $P \leq 1.04 \times D_p(\text{th})0.365$  in relation to the separation particle diameter  $D_p(\text{th})$ .

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